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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,649	10/16/2003	Katsuto Sumi	Q78006	5009

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EXAMINER	
PHAM, HAI CHI	
ART UNIT	**PAPER NUMBER**
2861	

DATE MAILED: 05/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

8/

Office Action Summary	**Application No.** 10/685,649	**Applicant(s)** SUMI ET AL.	
	Examiner Hai C. Pham	**Art Unit** 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 March 2006*.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5-37* is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☒ Claim(s) *5-30 and 34-37* is/are allowed.
6)☒ Claim(s) *31-33* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a)☒ All b)☐ Some * c)☐ None of:
1.☒ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date *03/23/04 (updated)*.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 5 and 34 are objected to because of the following informalities:

Claim 5:

- Line 5, "lever" should read --level--.

Claim 34:

- Line 5, "lever" should read --level--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 31 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Maruo (JP 8-23422).

Maruo, an acknowledged prior art, discloses an image recording apparatus comprising a detecting unit, which detects at least a part of an edge part of an image signal to be recorded (the differential circuit 17 and the clamping circuit 18 detect the rising and falling edges of the binarized picture image signal V1 while the gate circuit 13 detects the falling edge of the binarized picture image signal V1) (Figs. 4 and 5)

(English translations, paragraphs [0035], [0039]), a parameter setting unit (e.g., wave processing circuit 2) (Fig. 2), which sets parameters for processing, which increases a light quantity at an edge part perpendicular to a main scanning direction, based on image output information (the level of the exposure current signal IEA is adjusted at the edges in the sub-scanning direction based on the binarized image signal V2A) (Figs. 6 and 7) (English translations, paragraphs [0046]-[0052]), and the light source drive signal generation unit (exposure signal generation section 19) (Fig. 4), which drives said light source (laser diode 4) based on the timing information for image recording (the light beam LB exposes the sensitized material 5 in synchronization with the rotation of the cylinder drum 6 as well as in synchronization with the pixel clock signal VCL) (English translations, paragraphs [0024]-[0025], [0047]).

Maruo further teaches an image recording time control unit (controller 3), which controls an image recording time based on an output of said parameter setting unit (English translations, paragraphs [0022]-[0023]).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maruo in view of Miyagawa et al. (U.S. 6,208,371).

Maruo discloses all the basic limitations of the claimed invention including the light source drive signal generation unit (19) applies a power of said light beam (e.g., exposure current signal IEA) to an edge part of a recorded image at which said power of the light beam is differentiated from at a non-edge part of the recorded image (Fig. 7h), said power of said light beam is set to a power of a level at which a recording line width or a recording dot size, and said edge part of the recorded image being an edge part a side perpendicular to the main scanning direction (the light beam exposes the cylinder drum to form a scanned line extending in the main scanning direction, and whose width extends in the sub-scanning direction), but except for the power level of the recording dot being determined depending upon a threshold value for said photosensitive material to blacken, and the dot size being substantially fixed even if defocus occurs.

Miyagawa et al. discloses an image forming method comprising scanning a photosensitive material (recording medium F) with a light beam (laser beam L), and recording an image (Fig. 1), wherein a power of said light beam is set to a power of a level (power level or integrated intensity A) at which a recording line width or a recording dot size, which is determined depending upon a threshold value for said photosensitive material to blacken, is substantially fixed even if defocus occurs (the width of the linear image being defined by the coloring range "c" determined by the coloring threshold of the recording medium F while the power level of the laser beam is set at "A" level, the width of the linear image remains the same even if the laser beam is defocused as represented by the power level "B" of the defocused laser beam on the surface of the recording medium) (Fig. 5) (col. 4, line 50 to col. 5, line 2).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to set the power level of the light beam in the device of Maruo based on the threshold value for the photosensitive material to blacken at which the light beam diameter is always fixed as taught by Miyagawa et al. The motivation for doing so would have been to efficiently utilize the laser beam without shortening the life of the light source as well as to produce images free of image density irregularities as suggested by Miyagawa et al. at col. 2, lines 18-24 and 32-35.

Allowable Subject Matter

6. Claims 5-30 and 34-37 are allowed.

7. The following is an examiner's statement of reasons for allowance: claims 5 and 34 are patentable over the prior art patents and printed publications because of the specific power output adjustment of the light source of the image forming apparatus, wherein the light beam has a sectional beam diameter that is substantially fixed at a certain power level even if defocus occurs, the sectional beam diameter expanding below said certain power level in accordance with the defocus, wherein the power of said light beam is adjusted such that said certain power level with which said sectional beam diameter is substantially fixed coincides with a threshold level for said photosensitive material to blacken and wherein at said power of said light beam, a recording line width or a recording dot size, which is determined depending upon said threshold value for said photosensitive material to blacken, is substantially fixed even if

the defocus occurs. The combined limitations as currently claimed are not taught by the prior art of record alone or in combination.

Claims 6-30 and 35-37 are allowable because they are directly or indirectly dependent from claims 5 and 34 above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

8. Applicant's arguments with respect to claims 31-33 have been considered but are moot in view of the new grounds of rejection.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vip Patel can be reached on (571) 272-2458. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HAI PHAM
PRIMARY EXAMINER

May 23, 2006